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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Toshio Yamawaki

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CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER

OBERLY, ERIC T

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,312	Applicant(s) YAMAWAKI, TOSHIO	
	Examiner ERIC T. OBERLY	Art Unit 2184	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 8, and 9 are rejected under 35 USC 103(a) as being obvious over Yamauchi et al. (European Patent Application # EP 1103973 A2), hereinafter referred to as Yamauchi, in view of Owen et al. (US Patent # 6058459), hereinafter referred to as Owen, further in view of Nakamura et al. (Japan Publication # JP 01-217767), hereinafter referred to as Nakamura, page and line citations in reference to Nakamura are from the Japan Publication Translation provided by the USPTO.

Referring to claim 1, Yamauchi discloses a hard disk drive (HDD) control apparatus (Fig. 1), comprising: a navigation system (Navigation functions, col. 12, lines 9-11, Fig. 1); a hard disc drive HDD (HD Drive 28, Fig. 28); a second system (Display Device 13 and Audio Device 18, Fig. 1); means for coupling the HDD control apparatus to the navigation system, the HDD and the second system (communication bus line 9, col. 13, lines 1-7), and a control unit (system controller 4 for... controlling the recording and reproducing apparatus S as a whole, Fig. 1; col. 12, lines 8-11) configured to write or read that writes or reads data in or from the HDD in response to a first command sent from the navigation system (map information necessary for the navigation function is transferred and stored to a hard disc HD...the navigation function can be used by

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reading out the map information through the HD drive, col. 13, lines 57-58 and 14, lines 1-10), to read compressed data from the HDD in response to a second command sent from the second system (the selected music information is read out from the hard disc...music information is compressed; col. 20, lines 17-20), and to instruct a decompression unit (Expanding device 24, Fig. 1) to decompress the compressed data (music information is...expanded by the expanding device; col. 20, lines 19-21) and transmit the decompressed resultant data to the second system (the expanded music information...is then outputted from the speaker 22 through the D/A converter 19 and amplifier 21; col. 25, lines 1-4),

While Yamauchi discloses the navigation system and the second system accessing the HDD, Yamauchi does not appear to explicitly disclose the commands are issued substantially concurrently, the control unit is further configured to arbitrate the first and second commands through time sharing by reading data in response to the first command sent from the navigation, during decompression of compressed data by the decompression unit.

However, Owen discloses the commands are issued substantially concurrently (determined if two requests issued simultaneously; col. 13, lines 9-10), the control unit is further configured to arbitrate the first and second commands through time sharing (The arbiter determines which of the devices gets access to the memory. The decoder/encoder gets access to the memory in the first time interval, and the first device gets access to the memory in the second time interval; col. 12, lines 55-58).

Furthermore, while Owens discloses in response to a request to access memory from

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the first device (col. 12, lines 49-58), "in response to the first command sent from the navigation", and a FIFO for buffering compressed data for decompressing by the video and/or audio decompression and/or compression device (decoder/encoder, FIFO 30, Fig. 6, col. 11, lines 48-52 and col. 6, lines 22-26), Owens does not specifically disclose data is read by the navigation system during the processing of data from the buffer by the audio system.

However, Nakamura discloses a read ahead buffer for an audio system which buffers audio data for processing (If a map data request is transmitted from the navigation device...music data is read from the buffer memory 54 by means of a FIFO technique; col. 12, lines 15-21), and data is read by the navigation system during the processing of data from the buffer by the audio system (music data stored in the buffer memory 54 for maps can be read even while the optical pickup 20 is away from the music data track region for a period of time in order to read map data; pg. 6, lines 6-9).

Yamauchi in view of Owen in view of Nakamura are analogous art because they are from the same field of endeavor, shared memory systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Owen in view of Nakamura before him or her, to modify the system controller of Yamauchi to include the time interval arbitration of Owen and the read ahead buffers of Nakamura because the HDD of Yamauchi stores both map and music data which requires the system controller to share the HDD between the navigation system and audio system and the time sharing

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and read ahead buffers would allow the system to access map data and continue playback of the music with out interruption.

The suggestion/motivation for doing so would have been to effectively read map data while maintaining the continuity of music playback when utilizing a common recording medium for both the navigation system and music reproduction system (Nakamura, pg. 14, lines 1-3)

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura to obtain the invention as specified in the instant claim.

As to claim 2, Yamauchi teaches a compression unit (compressing, 23, Fig. 1) that compresses received data and transmits the compressed data to the HDD (col. 15, lines 42-47), wherein in response to a command sent from the second system, the control unit instructs the compression unit to compress the received data and write the compressed data in the HDD (col. 15, lines 21-30).

As to claim 5, Yamauchi teaches a memory unit (MD (Mini Disk) Drive 12, Fig. 1); and a memory unit interface coupled between the HDD and the memory unit (col. 16, lines 48-58 and col. 17 lines 1-3), wherein the control unit is configured to control the data transfer between a memory and the HDD (system controller 4 for... controlling the recording and reproducing apparatus S as a whole, Fig. 1; col. 12, lines 8-11).

As to claim 8, Yamauchi teaches comprising peripherals configured to adapt a plurality of respective user interfaces (input device; col. 12, lines 12-13).

As to claim 9, Yamauchi teaches a flash ROM for storing software, based on which the control unit acts (col. 12, lines 50-52).

Claims 3, 4, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi in view of Owen in view of Nakamura as applied to claims 1, 2, 5, 8, and 9 above, and further in view of Okuyama et al. (US Patent # 6687072), hereinafter referred to as Okuyama.

As to claim 3, Yamauchi in view of Owen in view of Nakamura discloses an interface for connecting the HDD control apparatus to the navigation system (Yamauchi, interface 5, Fig. 1) wherein, a command to leave the interface unoccupied is adopted as the command sent from the second system (Nakamura: if there is no map data request from the navigation device...sequential reading mode is selected; Pg. 11, lines 11-13).

Yamauchi in view of Owen in view of Nakamura does not appear to explicitly disclose an AT attachment (ATA) interface.

However, Okuyama discloses an AT attachment (ATA) interface (Fig. 1 and 3, col. 8, lines 12-27).

Yamauchi in view of Owen in view of Nakamura and Okuyama are analogous art because they are from the same field of endeavor, vehicle navigation systems

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Nakamura and Okuyama before him or her, to modify the HDD of Yamauchi in view of Owen in view of Nakamura to include the ATA interface of Okuyama because the ATA interface is an industry standard and would be an obvious variant to one of ordinary skill in the art.

The suggestion/motivation for doing so would have been the use of an expected industry standard interface as taught by Okuyama (col. 4, lines 33-39)

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura and Okuyama to obtain the invention as specified in the instant claim.

As to claim 4, the combination of Yamauchi in view of Owen in view of Nakamura and Okuyama discloses the ATA interface for connecting the HDD control apparatus to the navigation system, as discussed above.

Furthermore, the combination discloses a second interface for connecting the HDD control apparatus to the second system (Yamauchi; graphic controller 14 and D/A 19 and 20, Fig. 1) is an interface different from the ATA interface (Okuyama; Fig. 1 and 3, col. 8, lines 12-27).

Yamauchi in view of Owen in view of Nakamura and Okuyama are analogous art because they are from the same field of endeavor, vehicle navigation systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Owen in view of Nakamura and Okuyama before him or her, to modify the information recording and reproducing

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apparatus of Yamauchi in view of Owen in view of Nakamura to include the various interfaces as taught Okuyama because the ATA interface and the like are industry standards and would be an obvious variant to one of ordinary skill in the art.

The suggestion/motivation for doing so would have been the use of an expected industry standard interface as taught by Okuyama (col. 4, lines 33-39)

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura and Okuyama to obtain the invention as specified in the instant claim.

As to claim 6, Yamauchi in view of Owen in view of Nakamura does not appear to explicitly disclose an interface via which the navigation system accesses the memory unit is an ATA interface.

However, Okuyama discloses an interface via which the navigation system accesses a memory unit is an ATA interface (Fig. 1 and 3, col. 8, lines 12-27).

Yamauchi in view of Owen in view of Nakamura and Okuyama are analogous art because they are from the same field of endeavor, vehicle navigation systems

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Owen in view of Nakamura and Okuyama before him or her, to modify the navigation system of Yamauchi in view of Owen in view of Nakamura to include the ATA interface of Okuyama because the ATA interface is an industry standard and would be an obvious variant to one of ordinary skill in the art.

The suggestion/motivation for doing so would have been the use of an expected industry standard interface as taught by Okuyama (col. 4, lines 33-39)

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura and Okuyama to obtain the invention as specified in the instant claim.

As to claim 10, Yamauchi in view of Owen in view of Nakamura does not appear to explicitly disclose an ATA interface for connecting the HDD control apparatus to the HDD, wherein the HDD is a general-purpose HDD.

However, Okuyama an ATA interface for connecting the HDD control apparatus to the HDD, wherein the HDD is a general-purpose HDD (Fig. 1 and 3, col. 8, lines 12-27).

Yamauchi in view of Owen in view of Nakamura and Okuyama are analogous art because they are from the same field of endeavor, vehicle navigation systems

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Owen in view of Nakamura and Okuyama before him or her, to modify the HDD of Yamauchi in view of Owen in view of Nakamura to be a General Purpose HDD and include the ATA interface of Okuyama because the they are industry standards and would be an obvious variant to one of ordinary skill in the art.

The suggestion/motivation for doing so would have been the use of an expected industry standard interface as taught by Okuyama (col. 4, lines 33-39).

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura and Okuyama to obtain the invention as specified in the instant claim.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamauchi in view of Owen in view of Nakamura in view of Okuyama as applied to claims 3, 4, 6, and 10 above, and further in view of Jacobs et al. (US Patent # 6618788), hereinafter referred to as Jacobs.

As to claim 7, Yamauchi in view of Owen in view of Nakamura in view of Okuyama discloses a plurality of memory unit interfaces (MD Drive 12, DVD-ROM Drive 11; Fig. 1), wherein the control unit is configured to select one of the memory unit interfaces, via which the navigation system accesses a specific memory unit (col. 14, lines 29-34).

Yamauchi in view of Owen in view of Nakamura in view of Okuyama does not appear to explicitly disclose instructing the selected interface to function as a slave of the ATA interface.

However, Jacobs discloses selected interface to function as a slave of the ATA interface (col. 1, lines 44-56).

Yamauchi in view of Owen in view of Nakamura in view of Okuyama and Jacobs are analogous art because they are from the same problem solving endeavor, communication among multiple system components.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Yamauchi in view of Owen in view of Nakamura in view

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of Okuyama and Jacobs before him or her, to modify the system controller of Yamauchi in view of Owen in view of Nakamura in view of Okuyama to identify a slave device as taught by Jacobs as a known standard in implementing the ATA interface and operations

The suggestion/motivation for doing so would have been the typical implementation of the ATA interface as taught by Jacobs (col. 1, lines 11-19) would be an obvious variant to one of ordinary skill in the art.

Therefore, it would have been obvious to combine Yamauchi in view of Owen in view of Nakamura in view of Okuyama and Jacobs to obtain the invention as specified in the instant claim.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC T. OBERLY whose telephone number is (571)272-6991. The examiner can normally be reached on Monday - Friday 7:30 - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. T. O./
Examiner, Art Unit 2184

/Henry W.H. Tsai/
Supervisory Patent Examiner, Art Unit 2184